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An unusual presentation of a rectal duplication cyst

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ABSTRACT

INTRODUCTION: Intestinal duplications are rare developmental anomalies that can occur anywhere along the gastrointestinal tract. Rectal duplication cysts account for approximately 4% of all duplication cysts. They usually present in childhood with symptoms of mass effect, local infection or more rarely with rectal bleeding from ectopic gastric mucosa.
PRESENTATION OF CASE: A 26 year old male presented with a history of bright red blood per rectum. On examination a mucosal defect with an associated cavity adjacent to the rectum was identified. This was confirmed with rigid proctoscopy and CT scan imaging. A complete transanal excision was performed.
DISCUSSION: Rectal duplication cysts are more common in pediatric patients. They more frequently present with symptoms of mass effect or local infection than with rectal bleeding. In adult patients they are a rare cause of rectal bleeding. Definitive treatment is with surgical excision. A transanal, transcoccygeal, posterior sagittal or a combined abdominoperineal approach may be used depending on anatomic characteristics of the duplication cyst.
CONCLUSION: We present a rare case of a rectal duplication cyst presenting in adulthood with rectal bleeding, managed with transanal excision.

1. Introduction

Intestinal duplications are rare developmental anomalies that can occur anywhere along the gastrointestinal tract. Intestinal duplications were originally described in 1941, by Ladd and Gross, as having an attachment or adherence to some part of the gastrointestinal tract, the presence of a smooth muscle wall and a mucosal lining with one or more cell type of the gastrointestinal tract.[1]

Rectal duplication cysts account for approximately 4% of all intestinal duplications. Presentation in adulthood is rare; they usually present in childhood with symptoms of infection, fistulization or mass effect such as tenesmus, constipation, prolapse and urinary retention.[2,3]

2. Presentation of case

A 26 year old male presented with intermittent, bright red rectal bleeding for many years. His past medical history was significant for peptic ulcer disease. Rectal examination revealed a mucosal defect with an associated cavity palpable just above the dentate line in the right lateral position. Rigid proctoscopy confirmed these findings and showed no mucosal mass. A CT scan confirmed the presence of the rectal duplication cyst and further delineated its surrounding anatomy (Fig. 1A).

A complete transanal excision of the mucosal lining was performed. Interrupted silk sutures were placed around the orifice of the cyst from within the rectum for uniform traction (Fig. 1B). The mucosa of the duplication cyst was then incised at the orifice and complete resection of the cyst mucosal lining performed. The resulting rectal wall defect was closed with vicryl suture. The patient was discharged on the first post operative day and had resolution of symptoms at 6 week follow up. Pathology confirmed a duplication cyst with gastric mucosa, areas of mucosal ulceration and no evidence of malignancy.

3. Discussion

Rectal bleeding is an unusual presentation of a rectal duplication cyst, related to the presence of ectopic gastric mucosa. It is a rare cause of rectal bleeding in an adult patient. The diagnosis of a rectal duplication cyst can be made preoperatively using proctoscopy, contrast enema, CT imaging, MR imaging or transanal ultrasound.

Surgical excision is curative, provides symptomatic relief and prevents complications from the cyst including perianal sepsis, bleeding and malignant degeneration. Excision may be approached via a transanal or transcoccygeal approach depending on the position of the cyst and its relationship to adjacent structures. The basic principles of surgery are complete excision of the mucosal lining or if malignant degeneration is suspected total excision must be performed.

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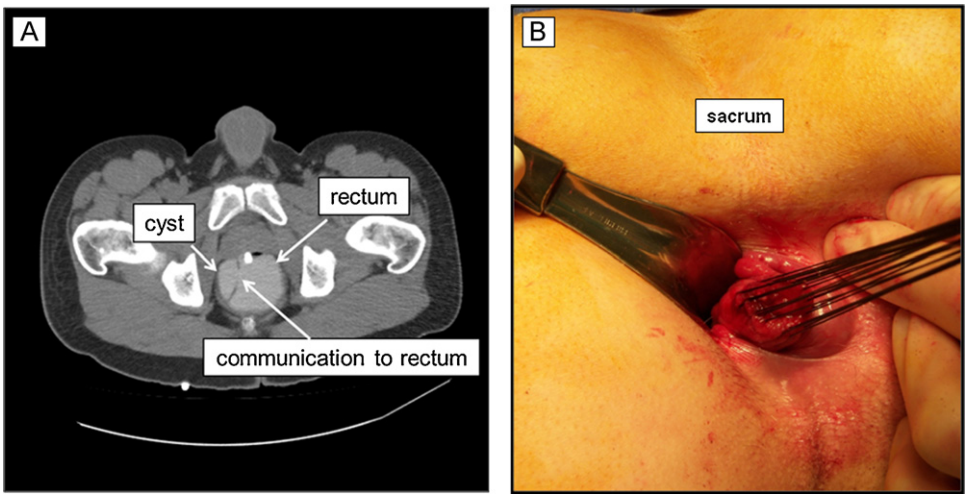

Fig. 1. (A) Axial CT, duplication cyst on right with wide communication with rectum; (B) retractor in rectum, circumferential sutures on orifice of duplication cyst for traction.

Transanal excision is described above; it can be used for cysts that can be everted into the rectum.

Rectal duplication cysts that are in the mid rectum or adherent to posterior structures may be better managed via a transcoccygeal or posterior sagittal approach.

Using the transcoccygeal approach, the patient placed in the prone jack knife position, a midline incision is made from a point halfway between the anus and the coccyx extending cranially to the left of midline. The presacral space is dissected, the coccyx and S5 are identified and, if necessary, excised for better exposure. The cyst is identified and dissected from the rectum anteriorly. Once the cyst has been removed the rectal wall is closed with absorbable sutures.

A posterior sagittal approach is more commonly used in children but has also been described for excision of rectal duplication cysts in adults. The incision for this approach extends from the coccyx to just posterior to the anus. The anal sphincters are preserved and the incision is carried down to the level of the rectal duplication cyst staying precisely in the midline. The levator muscles and posterior sagittal muscle fibers are reapproximated with absorbable suture after resecting the cyst and closing the rectum. In several of the reported cases using this approach, sacrococcygeal teratoma was suspected as the preoperative diagnosis.

More recently, transanal endoscopic microsurgery (TEM) and laparoscopic intraabdominal approaches have been described.[4,5] TEM has been described in two adult patients with posterior rectal duplication cysts with no evidence of malignancy. TEM allows more proximal lesions to be resected via the transanal route than standard transanal resection.[5]

A transabdominal laparoscopic approach can be used in children and adults; this is especially useful if the rectal duplication cyst has an intraabdominal component. Hagar dilators can be placed in the rectum and used to retract and aid the laparoscopic dissection.[4]

4. Conclusion

Our case adds to the sparse literature of rectal duplication cysts presenting in adulthood with rectal bleeding. Our report illustrates a straightforward, reproducible and safe transanal technique for resection.

Conflict of interest statement

None.

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None.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Katharine Jackson, William Peche and Michael Rollins all contributed to the study design, data collections and writing of the paper. All three authors have reviewed the final manuscript and agree to the submission of the paper to International Journal of Surgery Case Reports.

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